

CLAIMS

1. In a mobile telecommunications system that includes a plurality of base station controllers, a method for handling a base transceiver station that has become orphaned as a result of a loss of a primary base station controller that normally controls the base transceiver station,  
5 the method comprising:

determining that contact has been lost between said base transceiver station and said primary base station controller;

identifying a secondary base station controller from among said plurality of base station controllers to adopt said base transceiver station; and

10 effecting a handover of said base transceiver station from said primary base station controller to said secondary base station controller.

2. The method according to Claim 1, wherein said determining step comprises said base transceiver station determining that contact has been lost between said base transceiver station and said primary base station controller.

3. The method according to Claim 2, wherein said base transceiver station includes a memory having a list identifying base station controllers by which said base transceiver station is willing to be controlled, and wherein said identifying step includes said base transceiver station

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contacting base station controllers identified in said list one at a time until said secondary base station controller is identified.

4. The method according to Claim 3, wherein said list is a prioritized list, and  
5. wherein said base transceiver station contacts base station controllers identified in said list one at a time in order of priority.

5. The method according to Claim 4, wherein said primary base station controller is the base station controller identified in said prioritized list which is of highest priority.

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6. The method according to Claim 3, and further including the step of said base transceiver station waiting a period of time after determining that contact has been lost between said base transceiver station and said primary base station controller before contacting base station controllers identified in said list.

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7. The method according to Claim 6, wherein said step of waiting a period of time comprises waiting a first fixed period of time and thereafter waiting a second random period of time.

8. The method according to Claim 2, wherein said identifying step includes said base transceiver station sending a broadcast message to said plurality of base station controllers.

9. The method according to Claim 8, wherein said plurality of base station controllers comprises all base station controllers in a base station system of said mobile telecommunications system.

10. The method according to Claim 8, and further including the step of said base transceiver station waiting a period of time after determining that contact has been lost between said base transceiver station and said primary base station controller before sending said broadcast message.

11. The method according to Claim 10, wherein said period of time includes a first fixed period of time and up to a second random period of time.

12. The method according to Claim 11, and further including the step of said base transceiver station waiting up to a third period of time after sending said broadcast message for a response thereto, and repeating the step of sending a broadcast message if a response is not received within said third period of time.

13. The method according to Claim 2, wherein said identifying step includes said base transceiver station contacting a sub network manager of said mobile telecommunications system, and wherein said step of effecting a handover includes said sub network manager initiating said handover.

5 14. The method according to Claim 13, wherein said identifying step comprises said sub network manager contacting one or more of said plurality of base station controllers to identify said secondary base station controller.

10 15. The method according to Claim 13, wherein said identifying step comprises said sub network manager ordering one of said plurality of base station controllers to be said secondary base station controller.

15 16. The method according to Claim 1, wherein said determining step comprises a base station controller of said plurality of base station controllers determining that contact has been lost between said base transceiver station and said primary base station controller.

20 17. The method according to Claim 16, wherein each base station controller of said plurality of base station controllers sends a broadcast message to others of said plurality of base station controllers, and wherein each base station controller includes timers which time the broadcast messages sent from said others of said base station controllers, and wherein said

determining step includes determining that contact has been lost between said base transceiver station and said primary base station controller when a timer associated with said primary base station controller expires without a message having been received from said primary base station controller

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18. The method according to Claim 17, wherein said others of said plurality of base station controllers comprise predetermined ones of said plurality of base station controllers.

10 19. The method according to Claim 1, wherein said mobile telecommunications system includes a sub network manager, and wherein said determining step comprises said sub network manager determining that contact has been lost between said base transceiver station and said primary base station controller.

15 20. The method according to Claim 19, wherein said identifying step comprises said sub network manager contacting one or more of said plurality of base station controllers to identify said secondary base station controller.

20 21. The method according to Claim 1, and further including the step of said primary base station controller readopting said base transceiver station when contact is able to be reestablished between said base transceiver station and said primary base station controller.

22. The method according to Claim 21, wherein said readopting step comprises said base transceiver station requesting readoption of said primary base station controller.

5 23. The method according to Claim 21, wherein said readoption step comprises said base transceiver station advising said secondary base station controller that it wishes to be readopted by said primary base station controller.

10 24. A mobile telecommunications system comprising:  
a base station system, said base station system including a plurality of base station controllers, each of which controls at least one base transceiver station;  
a determiner that determines that contact has been lost between a base transceiver station and a primary base station controller that normally controls said base transceiver station;  
an identifier that identifies a secondary base station controller of said plurality of base station controllers to adopt said base transceiver station; and  
15 handover means for handing over said base transceiver station from said primary base station controller to said secondary base station controller.

20 25. The mobile telecommunications system according to Claim 24, wherein said base transceiver station includes a memory for storing a list of elements identifying base station controllers among said plurality of base station controllers in said base station system by which

it is willing to be controlled, and a pointer which points to an element in said list to identify a potential secondary base station controller.

26. The mobile telecommunications system according to Claim 24, wherein said

5 identifier includes a transmitter in said base transceiver station for transmitting a broadcast message to said plurality of base station controllers, and a receiver in said plurality of base station controllers for receiving a response to said broadcast message.

27. The mobile telecommunications system according to Claim 24, wherein said

10 determiner includes a transmitter in said primary base station controller for transmitting a broadcast message to others of said plurality of base station controllers, and wherein said others of said plurality of base station controllers include a receiver for receiving said broadcast message and a timer for determining that said broadcast message has not been received in a period of time.

15 28. The mobile telecommunications system according to Claim 24, wherein said base station system further includes a sub network manager, and wherein said determiner is in said sub network manager.